

Claims

1. An anti-microbial composition comprising:
  - (i) a C<sub>1</sub> to C<sub>4</sub> monohydric alcohol carrier fluid,  
5 present at a level of at least 25% by weight of the total composition (excluding any volatile propellant present);
  - (ii) an iron (III) chelator having an iron (III) binding constant of 10<sup>23</sup> or greater;
  - 10 (iii) a solubility promoter selected from the group consisting of:
    - (a) water;
    - (b) an organic amine;
    - (c) a polyhydric alcohol or derivative thereof;
    - 15 (d) a volatile propellant having fluorine-carbon or oxygen-carbon bonds;
    - (e) any combination of (a) to (d).
2. An anti-microbial composition according to claim 1, that  
20 is a deodorant composition for use on the human body or on apparel worn in close proximity thereto.
3. An anti-microbial composition according to claim 1 or 2,  
25 that is a homogeneous solution.
4. An anti-microbial composition according to claim 3, that is a homogeneous solution in aqueous ethanol.
5. An anti-microbial composition according to any of the  
30 preceding claims, wherein the weight ratio of C<sub>1</sub>-C<sub>4</sub> monohydric alcohol carrier fluid to water is greater than 65:35.

6. An anti-microbial composition according to any of the preceding claims, wherein the weight ratio of C<sub>1</sub>-C<sub>4</sub> monohydric alcohol carrier fluid to water is greater than 75:25 and the solubility promoter comprises an organic amine.
7. An anti-microbial composition according to claim 6, wherein the organic amine is present at a level sufficient to neutralise at least 60% of any acid groups on the iron (III) chelator.
8. An anti-microbial composition according to claim 6 or 7, wherein the organic amine is present at a level sufficient to lead to an aqueous solution of the chelator salt having a pH of between 6 and 8 (at a molar concentration of chelator salt equal to that present in the composition).
9. An anti-microbial composition according to any of the preceding claims, wherein the iron (III) chelator has a binding coefficient for iron (III) of greater than  $10^{26}$ .
10. An anti-microbial composition according to any of the preceding claims, wherein the iron (III) chelator is a polyaminocarboxylic acid or salt thereof.
11. An anti-microbial composition according to any of the preceding claims, wherein the iron (III) chelator has an acid form with at least five ionisable acid groups.

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12. An anti-microbial composition according to claim 10,  
wherein the iron (III) chelator is  
diethylenetriaminepentaacetic acid or a salt thereof.
- 5 13. An anti-microbial composition according to any of the  
preceding claims, wherein the chelator is present at a  
concentration of 0.01% to 10% by weight of the  
composition, excluding any volatile propellant present.
- 10 14. An anti-microbial composition according to any of the  
preceding claims, comprising an additional anti-  
microbial agent.
- 15 15. An anti-microbial composition according to claim 14  
wherein the additional anti-microbial agent is a  
cationic bactericide.
- 20 16. An anti-microbial composition according to any of the  
preceding claims, comprising fragrance material at up to  
4% by weight of the composition, excluding any volatile  
propellant present.
- 25 17. An anti-microbial composition according to any of the  
preceding claims, that comprises a volatile propellant.
18. An anti-microbial composition according to claim 17,  
wherein the volatile propellant comprises from 30 to 99%  
by weight of the total composition.
- 30 19. An anti-microbial composition according to claim 18,  
that comprises greater than 40% by weight of volatile  
propellant and a solubility promoter selected from the  
group comprising:

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- (a) an organic amine free of any N-H bonds and/or O-H bonds;
- (b) an organic amine and a polyhydric alcohol or derivative thereof;
- 5 (c) an organic amine and a volatile propellant having fluorine-carbon or oxygen-carbon bonds.
20. An anti-microbial composition according to any of claims  
10 17 to 19, wherein the weight ratio of C<sub>1</sub>-C<sub>4</sub> monohydric alcohol carrier fluid to water is between 95:5 and 99:1.
21. An anti-microbial composition according to any of claims  
15 17 to 19, wherein the weight ratio of C<sub>1</sub>-C<sub>4</sub> monohydric alcohol carrier fluid to water is greater than 99:1.
22. A method of controlling microbial numbers, said method comprising the application to a substrate of an anti-microbial composition according to any of the preceding  
20 claim.
23. A cosmetic method of inhibiting the generation of malodour comprising the topical application to the human body or to apparel worn in close proximity thereto of a  
25 composition according any one of claims 2 to 21.
24. A cosmetic method of delivering enhanced fragrance intensity comprising the topical application to the human body or to apparel worn in close proximity thereto  
30 of a composition according any one of claims 2 to 21 that also comprises a fragrance material.

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25. A method for the manufacture of an anti-microbial composition, said method comprising the formation of a solution of an iron (III) chelator having an iron (III) binding constant of  $10^{23}$  or greater in a  $C_1$  to  $C_4$  monohydric alcohol carrier fluid, present at a level of at least 25% by weight of the total composition (excluding any volatile propellant present), and also comprising a solubility promoter selected from the group consisting of:
- 10 (a) water;
  - (b) an organic amine;
  - (c) a polyhydric alcohol or derivative thereof;
  - (d) a volatile propellant having fluorine-carbon or oxygen-carbon bonds;
  - 15 (d) any combination of (a) to (d).
26. A method for the manufacture of an anti-microbial composition according to claim 25, comprising the addition of the chelator and an organic amine to water to form an aqueous solution, followed by dilution with the  $C_1$  to  $C_4$  monohydric alcohol carrier fluid to form an aqueous alcohol solution, optionally followed by pressurisation with a liquified volatile propellant.
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